

SERVICE MANUAL

COMPACT DISC STEREO
CASSETTE RECEIVER

BASIC TAPE MECHANISM : ZZM-2 PR1NM
BASIC CD MECHANISM : AZG-1 ZA3RDM,
AZG-1 ZA3RNDM

SYSTEM	CD CASSEIVER	CD MECHANISM	SPEAKER	REMOTE CONTROLLER
NSX-AJ17	CX-NAJ17	AZG-1 ZA3RDM	SX-NAJ17	RC-ZAS02
NSX-BL14	CX-NBL14	AZG-1 ZA3RNDM	SX-NBL17	

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" NSX-AJ17(U)/BL14(LH), (S/M Code No. 09-001-428-8T1).
- If requiring information about the CD mechanism, see Service Manual of AZG-1, (S/M Code No. 09-001-335-3NC).

aiwa

S/M Code No. 09-003-428-8R1

REVISION

DATA

SPECIFICATIONS

<FM tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

<AM tuner section>

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<Amplifier section>

Power output	Rated U: 30 W + 30 W (50 Hz - 20 kHz, THD less than 1%, 6 ohms) LH: 28 W + 28 W (1 kHz, THD 1%, 6 ohms) Reference U: 40 W + 40 W (1 kHz, THD less than 10%, 6 ohms) LH: 35 W + 35 W (1 kHz, THD 10% 6 ohms)
Total harmonic distortion	U: 0.1% (15 W, 1 kHz, 6 ohms, DIN AUDIO) LH: 0.1% (14 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 500 mV
Outputs	SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS <U> accept speakers of 8 ohms to 16 ohms PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 8000 Hz
Recording system	AC bias
Heads	Deck 1 : Recording/Playback head x 1, erase head x 1 Deck 2 : Playback head x 1

<Compact disc player section>

Laser	Semiconductor laser ($\lambda = 780$ nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)

<Speaker system>SX-NAJ17<U>

Speaker System	2 way, bass reflex (magnetic shielded type)
Speaker units	Woofer: 120 mm (4 ³ / ₄ in.) cone type Tweeter: 20mm (1 ³ / ₁₆ in.) cone type
Impedance	6 ohms
Sensitivity	86 dB/W/m
Dimensions (W x H x D)	220 x 324x 211 mm (8 ³ / ₄ x 12 ⁷ / ₈ x 8 ³ / ₈ in.)
Weight	2.0 kg (4 lbs 7 oz.)

<Speaker system>SX-NBL17<LH>

Speaker System	2 way, bass reflex (magnetic shielded type)
Speaker units	Woofer: 120 mm cone type Tweeter: 20mm cone type
Impedance	6 ohms
Sensitivity	87 dB/W/m
Dimensions (W x H x D)	220 x 324x 211 mm
Weight	2.0 kg

<General>

Power requirements	U: 120 V AC, 60 Hz LH: 120 V/220-230 V/240 V AC (switchable), 50/60 Hz
Power consumption	U: 60 W LH: 55 W
Power consumption in standby mode	With power-economizing mode off : 12 W With power-economizing mode on : 0.9 W
Dimensions of main unit (W x H x D)	U: 260 x 330 x 348 mm (10 ¹ / ₄ X 13 X 13 ³ / ₄ in.) LH: 260 x 324 x 348 mm
Weight of main unit	U: 5.7 kg (12 lbs 9 oz.) LH: 5.7 kg

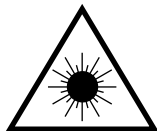
• Design and specifications are subject to change without notice.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

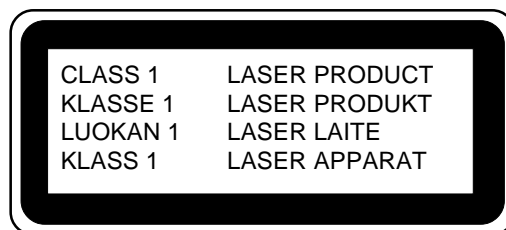
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.



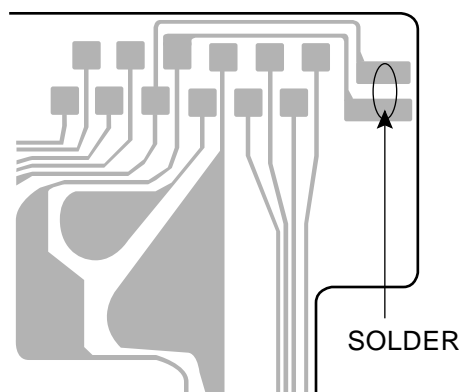
Precaution to replace Optical block

(KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in right figure.

PICK-UP ASSY
P.C.B



NOTE ON BEFORE STARTING REPAIR

1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.

In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

- ① Remove the AC power cord.
- ② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
- ③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
- ④ Contact the same end of the discharging resistor as step ③ to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
- ⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.

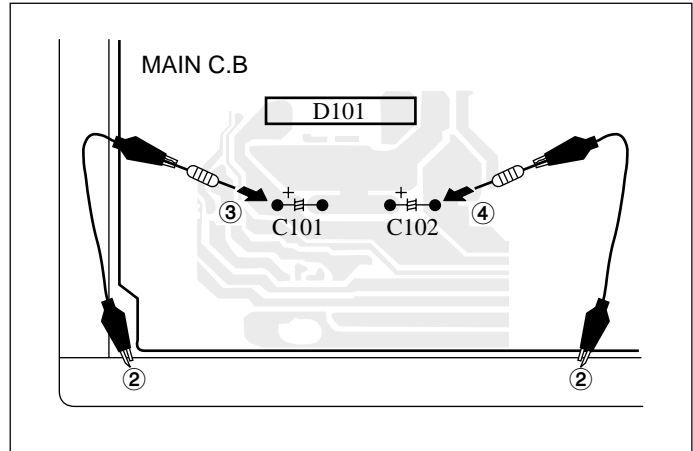


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor (Ω)	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is “H”, the MICROCOMPUTER is judged to be operating correctly. When this terminal is “L”, the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.

When the MICROCOMPUTER is not defective, the HOLD terminal can also go “L” when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to “L”.

• Good or no good judgement of the MICROCOMPUTER

- ① Turn on the AC main power.
- ② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the “H” level or not.
- ③ When the HOLD terminal is “L” level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

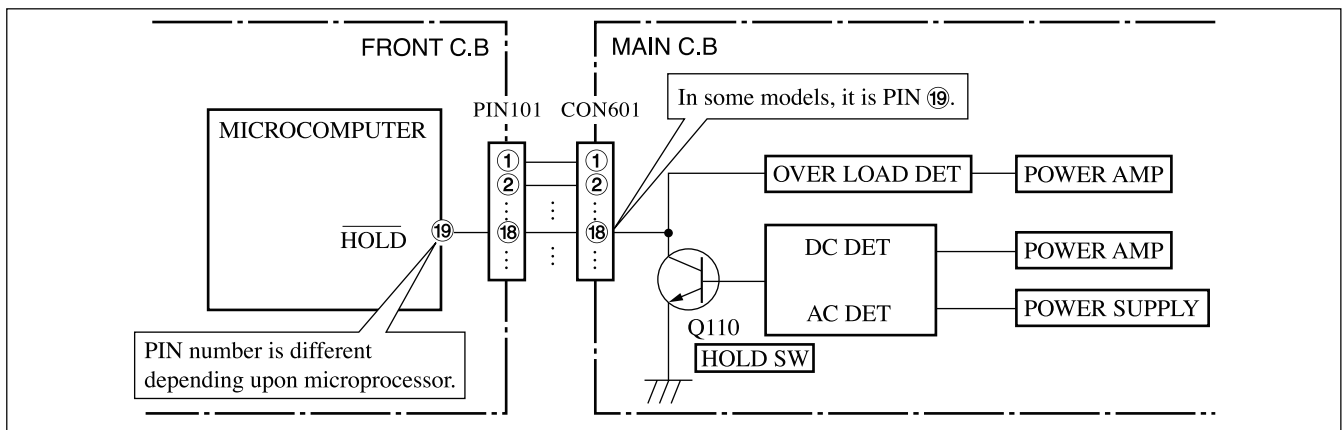


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.

When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

- ① Remove the AC power cord.

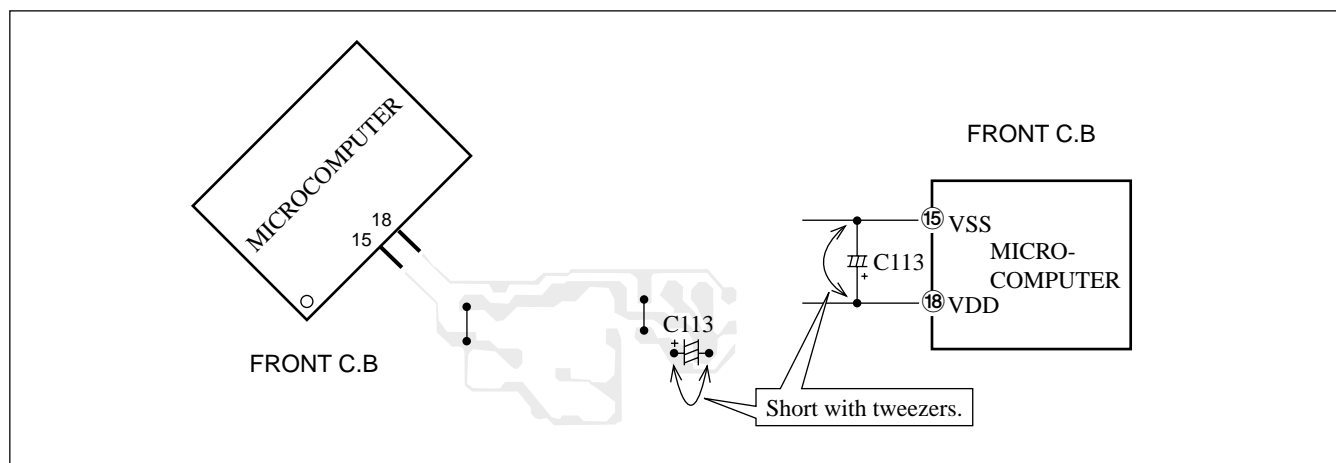


Fig-2-2

- ② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
- ③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C36	87-010-381-080		CAP, ELECT 330-16V
	8A-NFA-615-010		C-IC,M38B57MCH-E236FP	C38	87-A11-567-080		C-CAP,S 0.01-50 K B
	87-A21-397-010		IC,STK490-070	C60	87-010-403-080		CAP, ELECT 3.3-50V
	87-A21-629-010		IC,SPS-442-1-N	C97	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A21-419-040		C-IC,NJM14558MD-TE2	C100	87-018-127-080		CAP TC-U 470P
	87-A21-443-040		C-IC,M62495AFP				
	87-A21-415-010		IC,LA1843	C101	87-010-183-080		C-CAP,S 2700P-50 B
	87-070-127-110		IC,LC72131 D	C102	87-010-183-080		C-CAP,S 2700P-50 B
TRANSISTOR				C103	87-010-545-080		CAP, ELECT 0.22-50V
	87-026-609-080		TR,KTA1266GR	C104	87-010-545-080		CAP, ELECT 0.22-50V
	89-213-702-010		TR,2SB1370 (1.8W)	C105	87-010-178-080		CHIP CAP 1000P
	87-026-610-080		TR,KTC3198GR				
	87-A30-076-080		C-TR,2SC3052F	C106	87-010-178-080		CHIP CAP 1000P
	87-A30-075-080		C-TR,2SA1235F	C107	87-010-404-080		CAP, ELECT 4.7-50V
	87-026-245-080		TR,DTC114ES<LH>	C108	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-198-080		TR,KTC3199GR<LH>	C111	87-010-391-080		CAP,E 10-35 SME
	87-A30-090-080		FET,2SK2541	C112	87-010-391-080		CAP,E 10-35 SME
	87-A30-484-080		C-TR,KRA102S				
	87-A30-468-080		C-TR,KRC102S-RTK	C113	87-010-405-080		CAP, ELECT 10-50V
	87-A30-107-070		C-TR,CMBT5401	C114	87-010-405-080		CAP, ELECT 10-50V
	87-A30-106-040		C-TR,CMBT5551	C119	87-010-197-080		CAP, CHIP 0.01 DM
	87-A30-091-080		FET,2SJ460	C120	87-010-197-080		CAP, CHIP 0.01 DM
	87-A30-062-080		C-TR,KRC104S	C125	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-318-080		TR,CSA952K				
	89-333-317-880		TR,2SC3331 (0.5W)	C126	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-234-080		TR,CSC4115BC	C127	87-012-368-080		C-CAP,S 0.1-50 F
	89-327-143-080		TR,2SC2714 (0.1W)	C128	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-489-080		C-TR,KRA107S	C129	87-A11-572-080		C-CAP,S 0.015-50 K B
				C130	87-A11-572-080		C-CAP,S 0.015-50 K B
DIODE							
	87-020-465-080		DIODE,1SS133 (110MA)	C131	87-010-197-080		CAP, CHIP 0.01 DM
	87-A40-393-090		DIODE,1N5402GW (F20) <U>	C132	87-010-197-080		CAP, CHIP 0.01 DM
	87-A40-455-080		DIODE,RL203 GW	C133	87-010-186-080		CAP,CHIP 4700P
	87-A40-553-080		DIODE,1N4003 LES	C140	87-010-182-080		C-CAP,S 2200P-50 B
	87-A40-774-080		ZENER,UZ24BSD	C183	87-010-387-080		CAP,E 470-25 SME<U>
	87-A40-764-080		ZENER,UZ10BSC				
	87-A40-313-080		C-DIODE,MC 2840	C200	87-018-195-080		CAP TC-U 1200P
	87-A40-270-080		C-DIODE,MC2838	C235	87-010-408-080		CAP, ELECT 47-50V<U>
	87-A40-269-080		C-DIODE,MC2836	C236	87-010-408-080		CAP, ELECT 47-50V<U>
	87-A40-768-080		ZENER,UZ16BSA	C300	87-018-195-080		CAP TC-U 1200P
	87-A40-752-080		ZENER,UZ6.2BSC	C301	87-010-179-080		CAP,CHIP S B1200P
	87-A40-739-080		ZENER,UZ2.7BSA				
	87-017-149-080		ZENER,HZS6A2L	C302	87-010-179-080		CAP,CHIP S B1200P
MAIN C.B				C303	87-010-178-080		CHIP CAP 1000P
C3	87-010-196-080		CHIP CAPACITOR,0.1-25	C304	87-010-178-080		CHIP CAP 1000P
C4	87-010-196-080		CHIP CAPACITOR,0.1-25	C305	87-010-198-080		CAP, CHIP 0.022
C5	87-010-196-080		CHIP CAPACITOR,0.1-25	C307	87-010-263-080		CAP, ELECT 100-10V
C6	87-010-196-080		CHIP CAPACITOR,0.1-25				
C9	87-010-196-080		CHIP CAPACITOR,0.1-25	C308	87-010-263-080		CAP, ELECT 100-10V
				C311	87-010-598-080		C-CAP,S 0.068-16VRK
C10	87-010-196-080		CHIP CAPACITOR,0.1-25	C312	87-010-598-080		C-CAP,S 0.068-16VRK
C11	87-010-196-080		CHIP CAPACITOR,0.1-25	C313	87-010-188-080		CAP,CHIP 6800P
C12	87-010-196-080		CHIP CAPACITOR,0.1-25	C314	87-010-188-080		CAP,CHIP 6800P
C19	87-A10-627-000		CAP,E 2200-50 M SMG				
C20	87-A10-627-000		CAP,E 2200-50 M SMG	C315	87-010-263-080		CAP, ELECT 100-10V
				C317	87-010-546-080		CAP, ELECT 0.33-50V
C21	87-016-495-000		CAP,E 3300-25 M SMG	C318	87-010-546-080		CAP, ELECT 0.33-50V
C22	87-016-495-000		CAP,E 3300-25 M SMG	C326	87-010-198-080		CAP, CHIP 0.022
C25	87-010-385-080		CAP, ELECT 220-25V	C327	87-010-196-080		CHIP CAPACITOR,0.1-25
C26	87-010-247-080		CAP, ELECT 100-50V				
C30	87-010-247-080		CAP, ELECT 100-50V	C360	87-010-401-080		CAP, ELECT 1-50V
				C399	87-012-140-080		CAP 470P
C31	87-010-263-080		CAP, ELECT 100-10V	C401	87-010-544-080		CAP, ELECT 0.1-50V
C32	87-010-197-080		CAP, CHIP 0.01 DM	C402	87-010-544-080		CAP, ELECT 0.1-50V
C33	87-010-263-080		CAP, ELECT 100-10V<U>	C405	87-010-197-080		CAP, CHIP 0.01 DM
C34	87-010-247-080		CAP, ELECT 100-50V				
C35	87-010-406-080		CAP, ELECT 22-50	C406	87-010-197-080		CAP, CHIP 0.01 DM
				C407	87-010-197-080		CAP, CHIP 0.01 DM
				C408	87-010-197-080		CAP, CHIP 0.01 DM
				C409	87-010-182-080		C-CAP,S 2200P-50 B
				C410	87-010-182-080		C-CAP,S 2200P-50 B
				C411	87-010-405-080		CAP, ELECT 10-50V
				C412	87-010-405-080		CAP, ELECT 10-50V
				C452	87-010-382-080		CAP, ELECT 22-25V
				C453	87-010-183-080		C-CAP,S 2700P-50 B
				C454	87-010-183-080		C-CAP,S 2700P-50 B
				C455	87-010-183-080		C-CAP,S 2700P-50 B
				C456	87-010-197-080		CAP, CHIP 0.01 DM
				C460	87-010-196-080		CHIP CAPACITOR,0.1-25
				C461	87-012-158-080		C-CAP,S 390P-50 CH
				C462	87-012-158-080		C-CAP,S 390P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CN801	87-099-015-010		CONN,13P 6216V	PT C.B			
FL201	8A-NFA-604-010		FL,10-BT-224GNK	C1	87-010-387-080		CAP,E 470-25 SME<LH>
L101	87-A50-050-010		COIL,CLK 4.19M(COI)	C31	87-010-403-080		CAP, ELECT 3.3-50V<LH>
LED101	87-A40-317-080		LED,SLR-342VCT31 RED	C184	87-010-403-080		CAP, ELECT 3.3-50V<U>
S101	87-A91-555-010		SW,RTRY EC12E24504	CN1	87-A61-110-010		CONN,9P V TID-A<LH>
S301	87-A90-164-080		SW,TACT SKQAB(N)	△ PT1	8A-NFA-609-010		PT,ANF-A LH<LH>
S302	87-A90-164-080		SW,TACT SKQAB(N)	△ PT1	8A-NFZ-610-010		PT,ANF-Z U30<U>
S303	87-A90-164-080		SW,TACT SKQAB(N)	△ PT2	8A-NF8-673-010		PT,SUB ANF-8 (H) KAMI<LH>
S304	87-A90-164-080		SW,TACT SKQAB(N)	△ PT181	8A-NF8-661-010		PT,SUB ANF-8 (U) <U>
S305	87-A90-164-080		SW,TACT SKQAB(N)	△ RY1	87-A91-281-010		RELAY,AC DC12V OSA-SS-212DM5<LH>
S306	87-A90-164-080		SW,TACT SKQAB(N)	△ RY181	87-A90-976-010		RELAY,AC12V SDT-S-112LMR<U>
S307	87-A90-164-080		SW,TACT SKQAB(N)	△ S1	87-A90-165-010		SW,SL 1-2-3 SWS2301<LH>
S308	87-A90-164-080		SW,TACT SKQAB(N)	△ T1	87-A60-317-010		TERMINAL, 1P MSC<LH>
S309	87-A90-164-080		SW,TACT SKQAB(N)	△ T2	87-A60-317-010		TERMINAL, 1P MSC<LH>
S321	87-A90-164-080		SW,TACT SKQAB(N)	△ T181	87-A60-317-010		TERMINAL, 1P MSC<U>
S322	87-A90-164-080		SW,TACT SKQAB(N)	△ T182	87-A60-317-010		TERMINAL, 1P MSC<U>
S323	87-A90-164-080		SW,TACT SKQAB(N)				
S324	87-A90-164-080		SW,TACT SKQAB(N)	W99	8A-NF9-609-010		F-CABLE,9P 2.5 480MM<U>
S325	87-A90-164-080		SW,TACT SKQAB(N)	WH181	87-A90-510-010		HLDR,WIRE 2.5-9P<U>
S326	87-A90-164-080		SW,TACT SKQAB(N)				
S327	87-A90-164-080		SW,TACT SKQAB(N)				
S328	87-A90-164-080		SW,TACT SKQAB(N)				
S329	87-A90-164-080		SW,TACT SKQAB(N)				
S330	87-A90-164-080		SW,TACT SKQAB(N)				
S331	87-A90-164-080		SW,TACT SKQAB(N)				
SFR701	87-024-431-080		SFR,3.3K RH063EC				

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

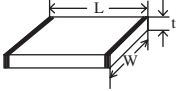
Chip Resistor Part Coding

8 8 - □ □ □ □ □ □

A
抵抗部品コード
Resistor Code

桁表示
Figure
抵抗値
Value of resistor

チップ抵抗 Chip resistor

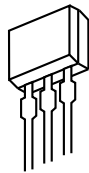
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



E C B

CSA952
CSC4115
KTA1266
KTC3198
KTC3199



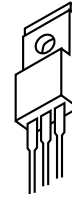
S D G

2SJ460
2SK2541



E C B

DTC114ES



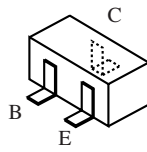
B C E

2SB1370



B C E

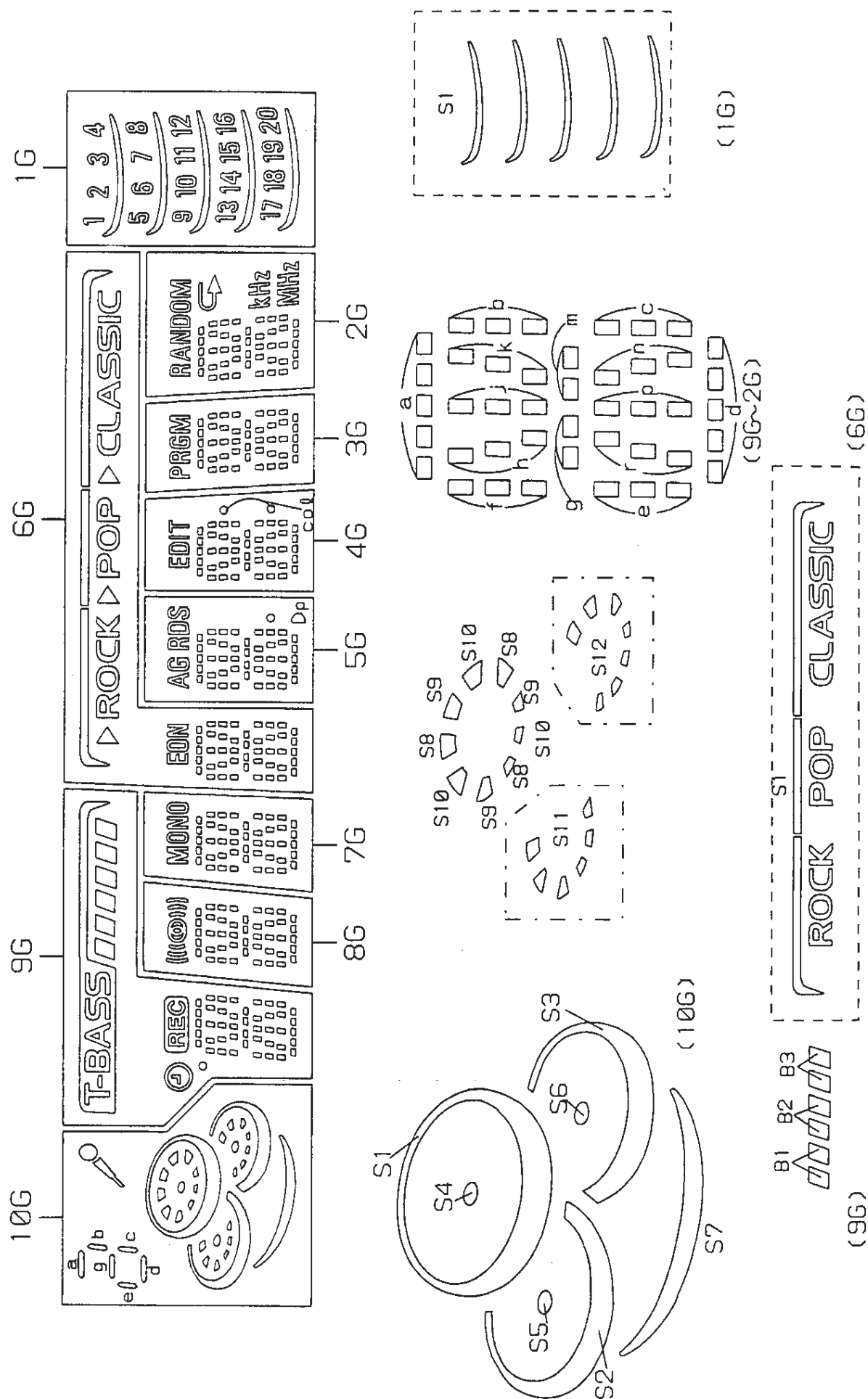
2SC3331



B C E

2SA1235 KRA102
2SC2714 KRA107
2SC3052 KRC102
CMBT5401 KRC104
CMBT5551

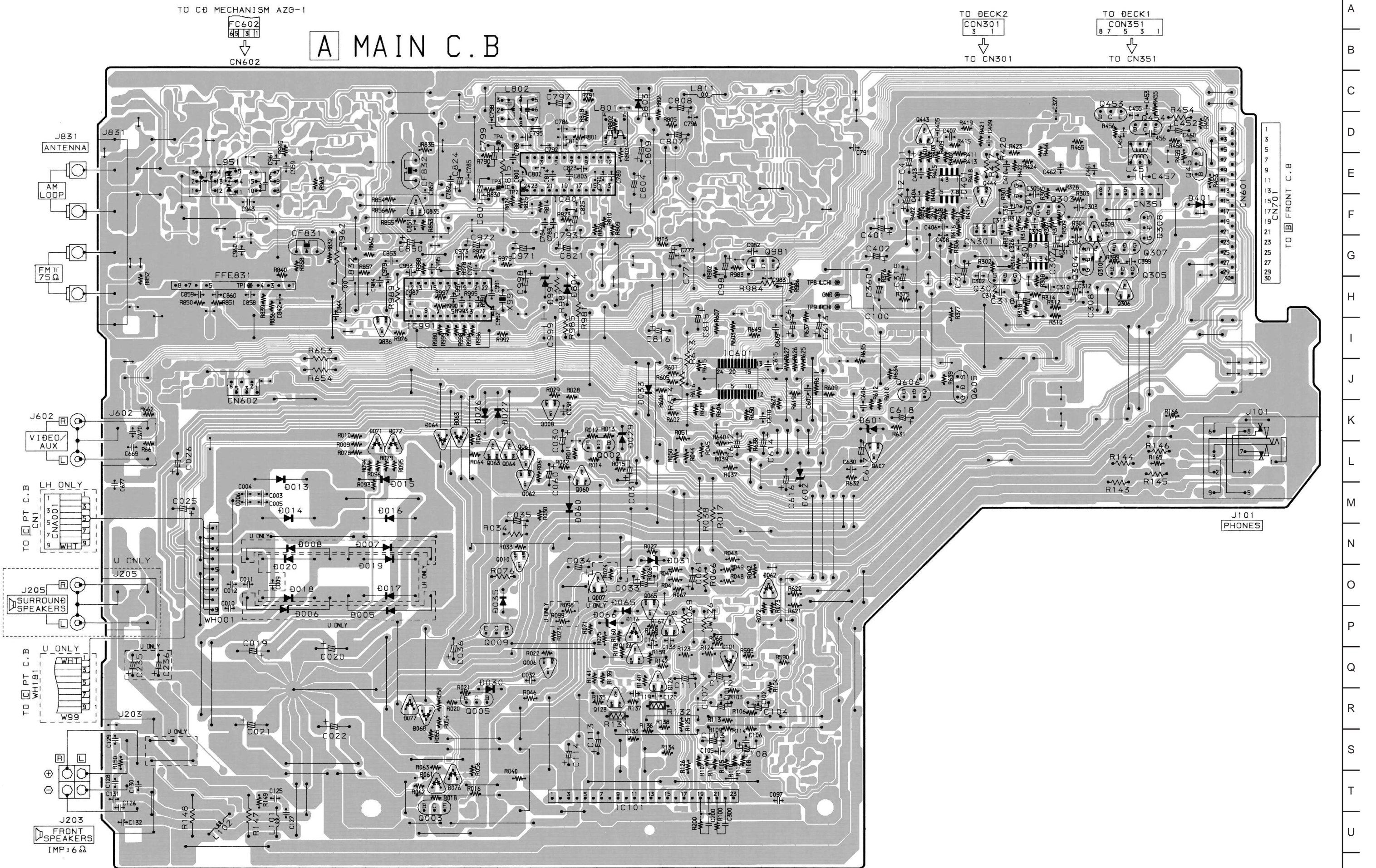
FL (10-BT-224GNK) GRID ASSIGNMENT & ANODE CONNECTION
GRID ASSIGNMENT



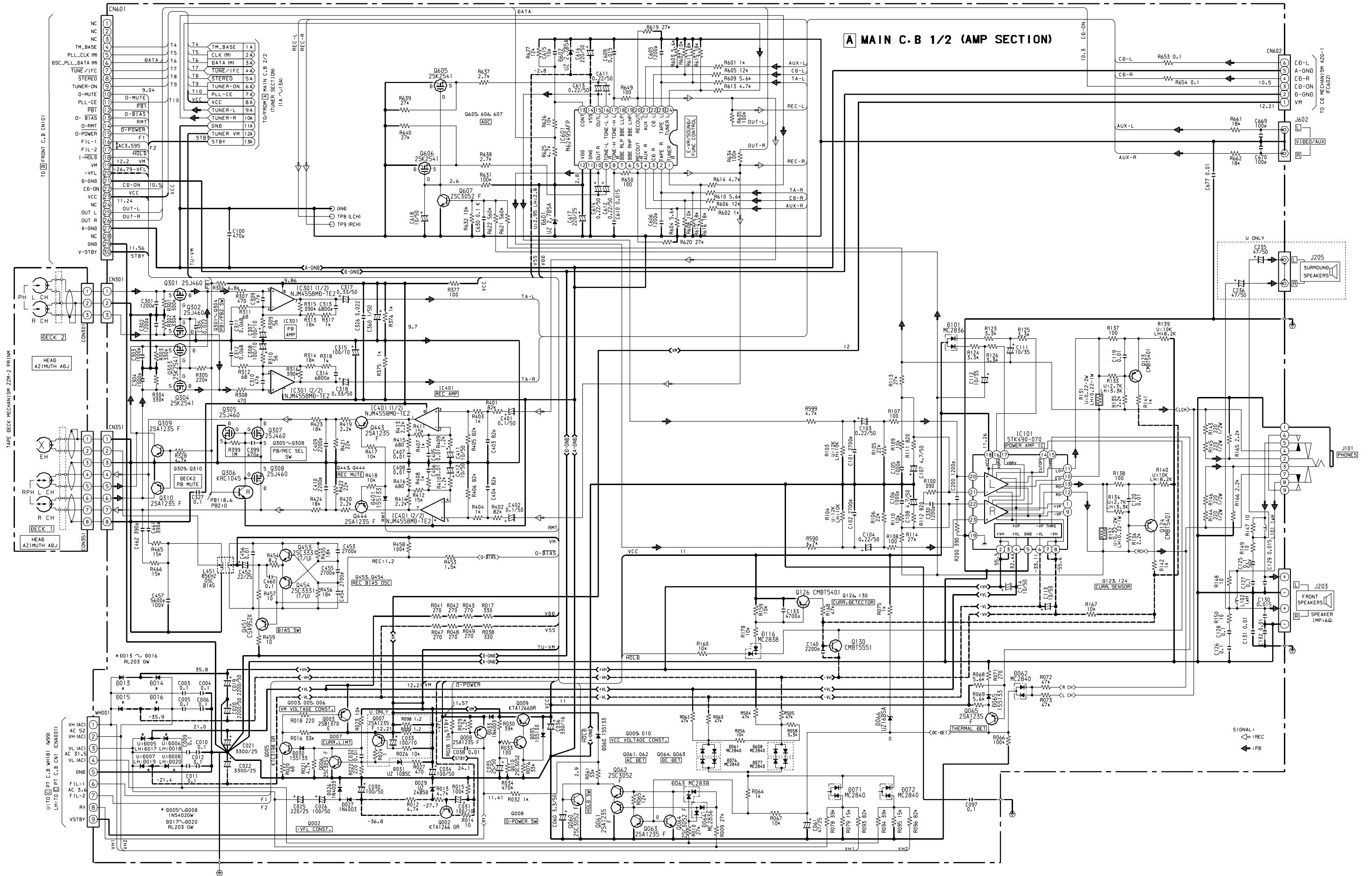
ANODE CONNECTION

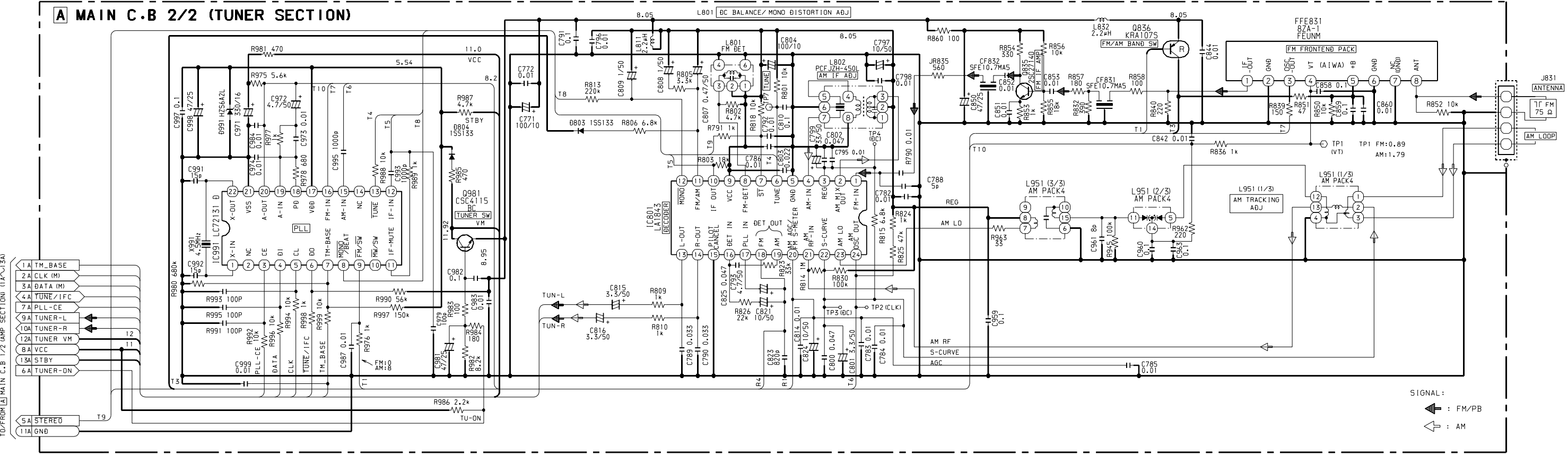
	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	-	d	d	d	d	d	d	d	d	16
P2	S7	n	n	n	n	n	n	n	n	20
P3	-	p	p	p	p	p	p	p	p	19
P4	S11	r	r	r	r	r	r	r	r	18
P5	S5	e	e	e	e	e	e	e	e	17
P6	S2	c	c	c	c	c	c	c	c	16
P7	S12	g	g	g	g	g	g	g	g	15
P8	S6	m	m	m	m	m	m	m	m	14
P9	S3	f	f	f	f	f	f	f	f	13
P10	S10	b	b	b	b	b	b	b	b	12
P11	S9	k	k	k	k	k	k	k	k	11
P12	S8	j	j	j	j	j	j	j	j	10
P13	S4	h	h	h	h	h	h	h	h	9
P14	S1	a	a	a	a	a	a	a	a	8
P15	-	Ⓜ	(((Ⓜ)))	MONO	EON	Dp	col (F)	-	MHZ	7
P16	-	(REC)	-	-	-	AG	col (L)	-	KHZ	6
P17	🎧	○	-	-	▷ (CLASSIC)	RDS	EDIT	PRGM	↩	5
P18	a, d, g	ⓂBASS	-	-	▷ (ROCK)	-	-	-	-	4
P19	b	B1	-	-	▷ (POP)	-	-	-	-	3
P20	c	B2	-	-	S1	-	-	-	RANDOM	2
P21	e	B3	-	-	-	-	-	-	-	1
										S1

	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
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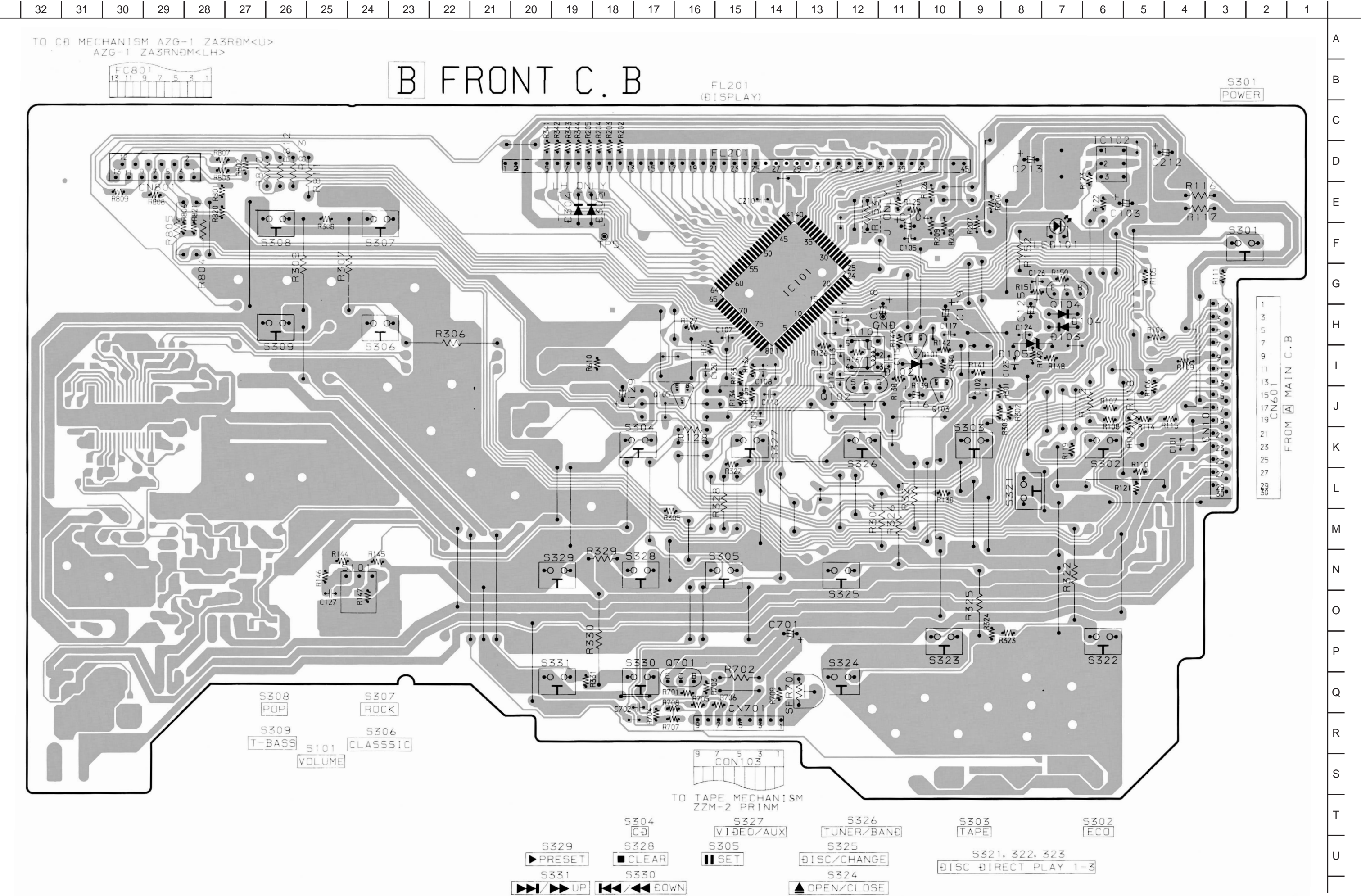


SCHEMATIC DIAGRAM - 1 (MAIN: 1 / 2)

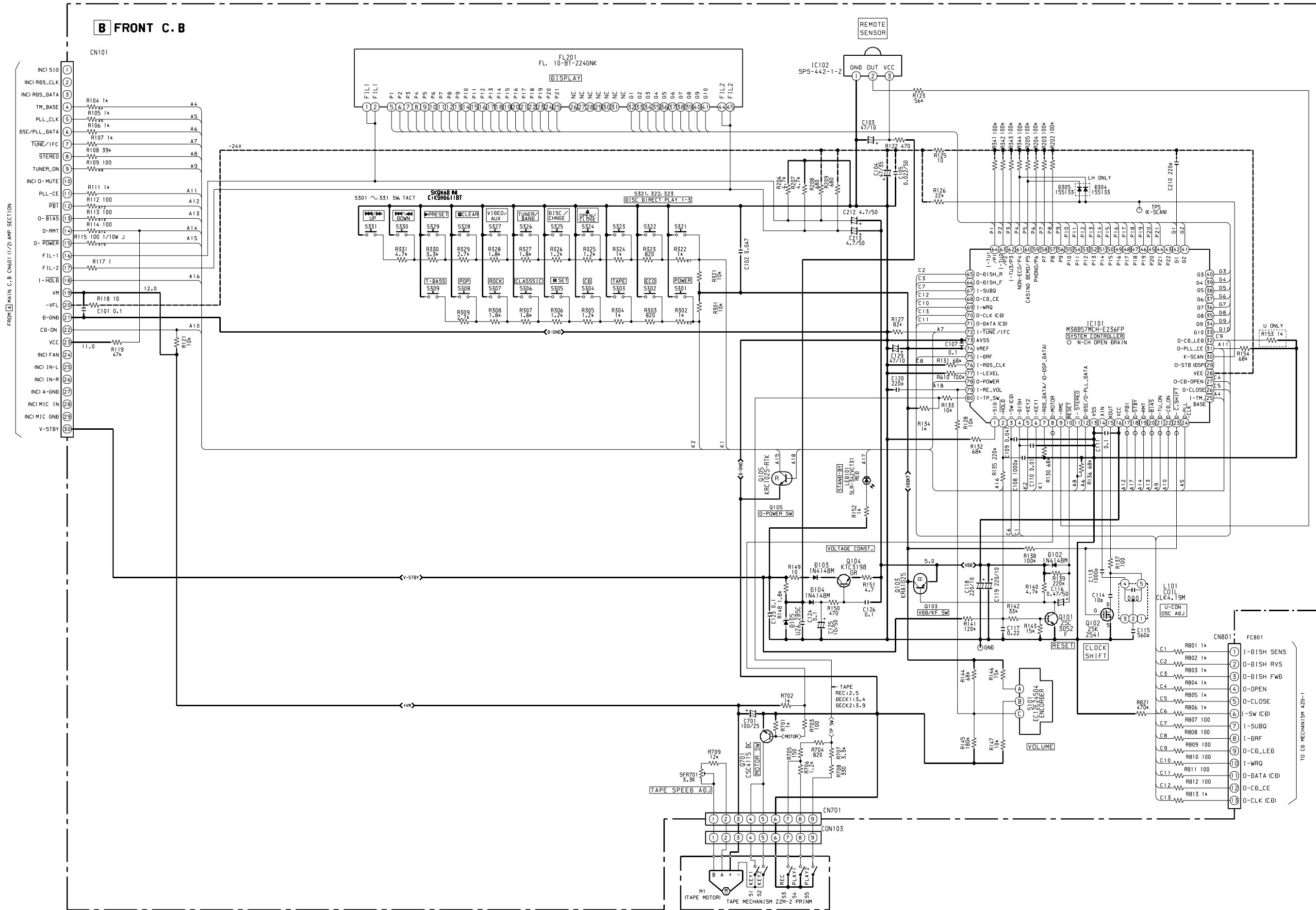




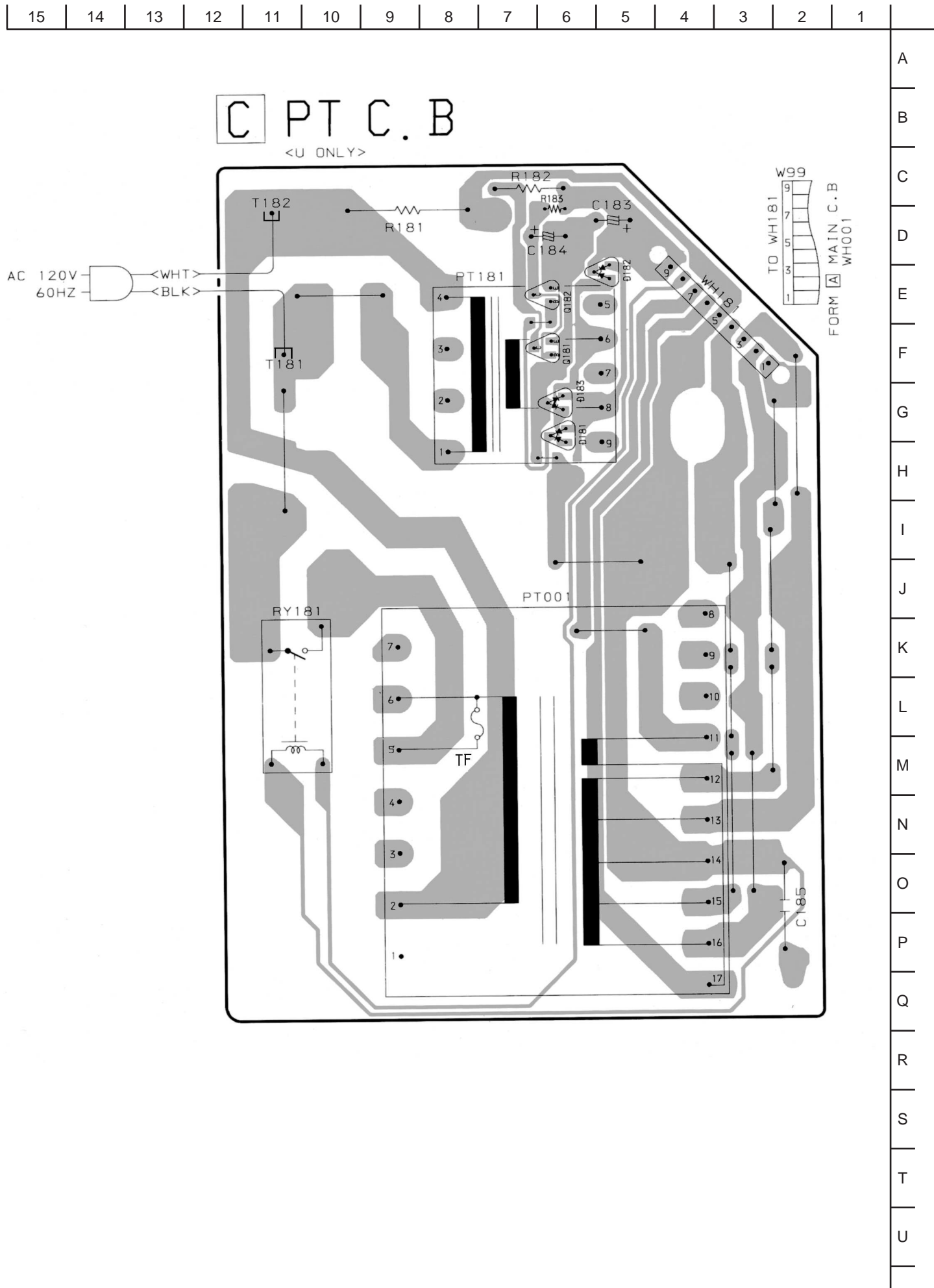
WIRING - 2 (FRONT)



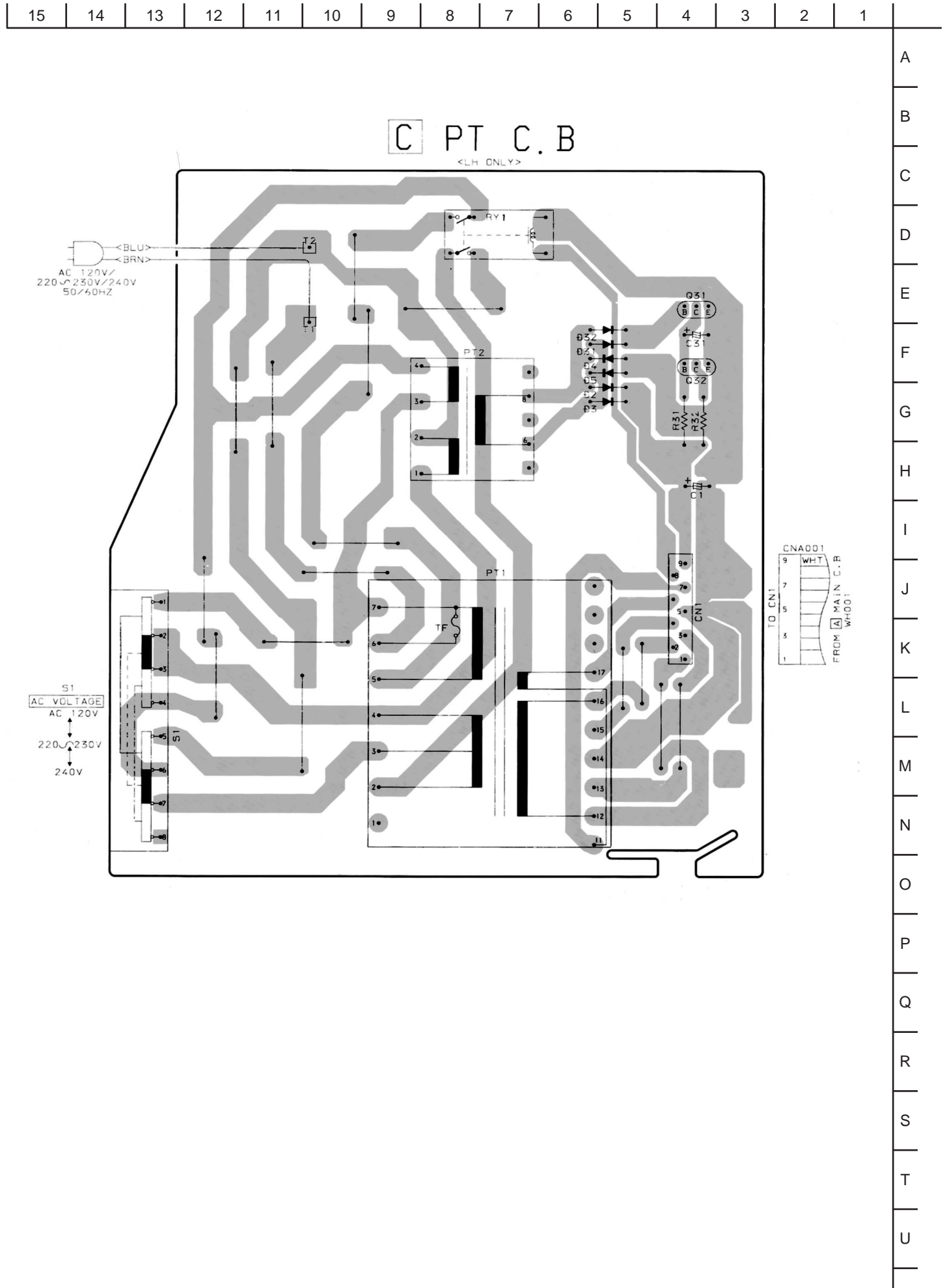
SCHEMATIC DIAGRAM - 3 (FRONT)



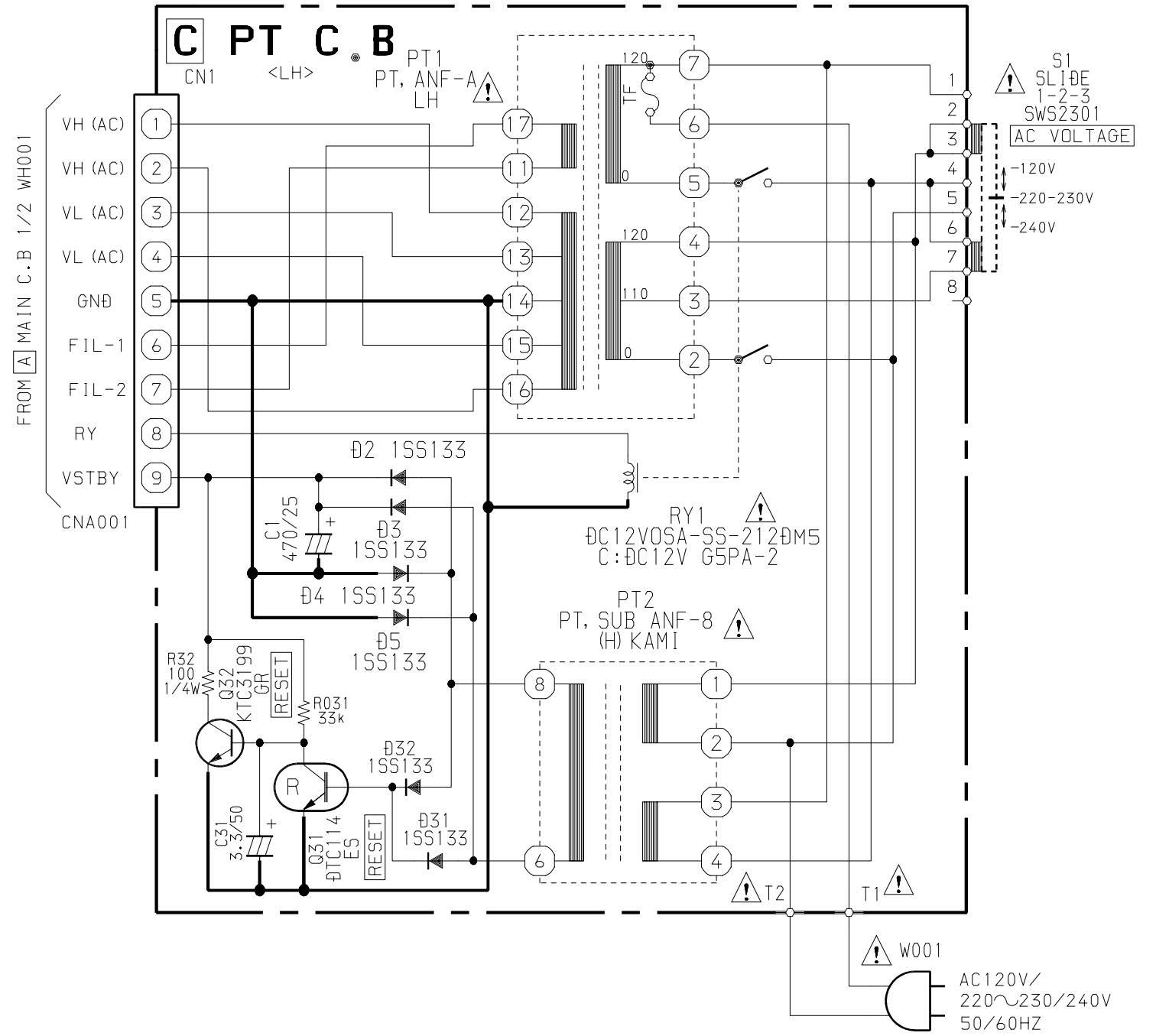
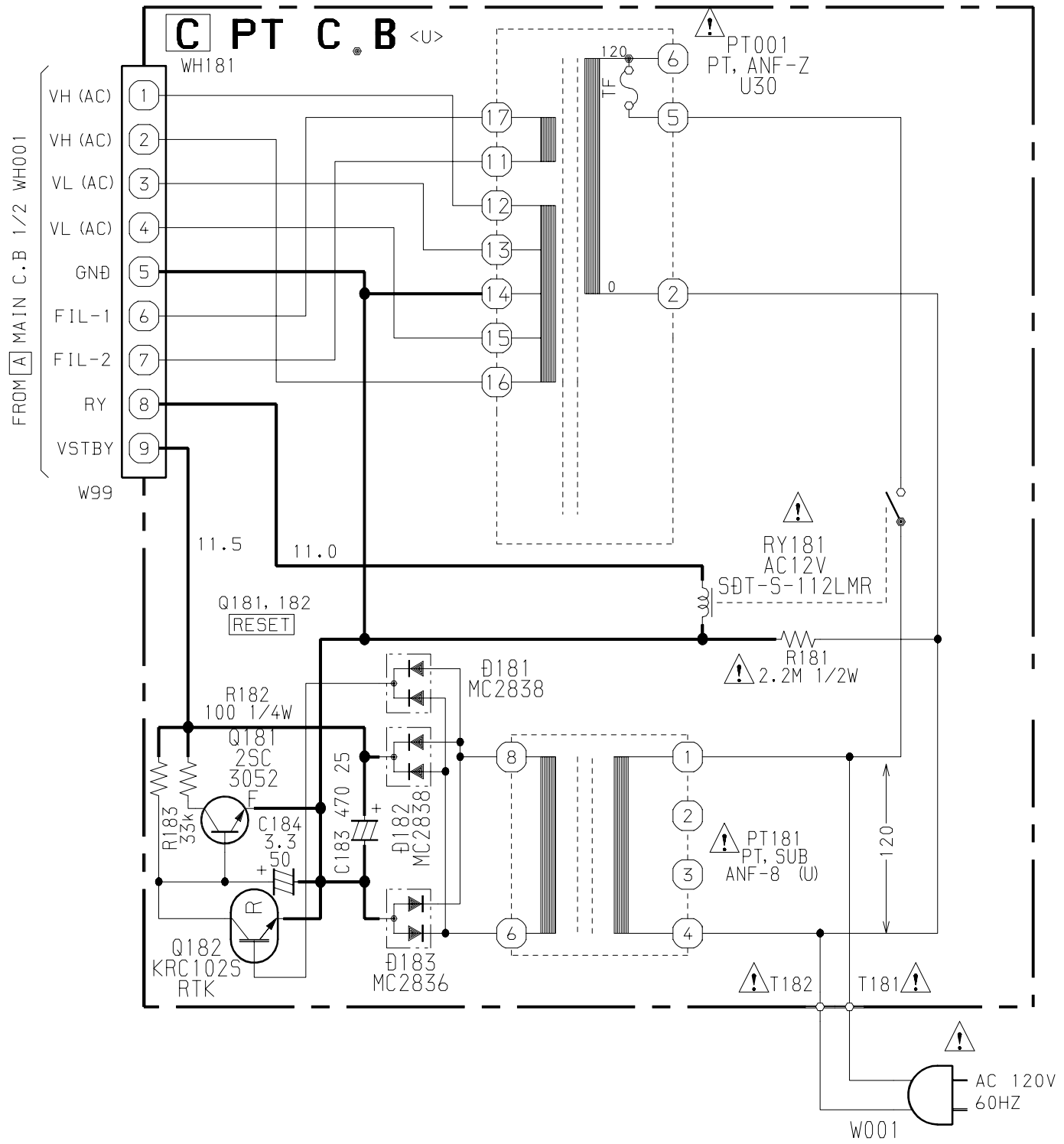
WIRING - 3 (PT: U)



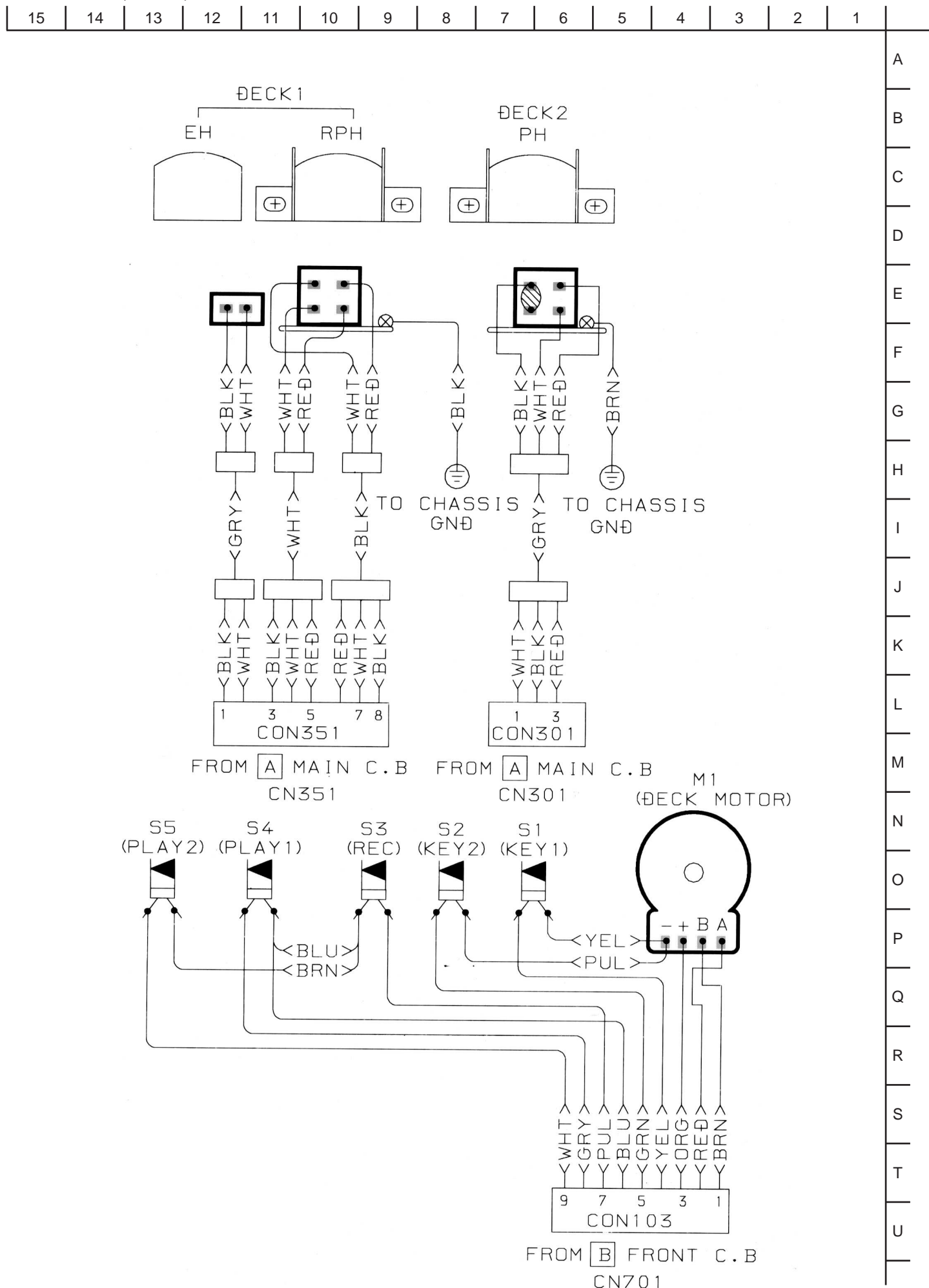
WIRING - 4 (PT: LH)



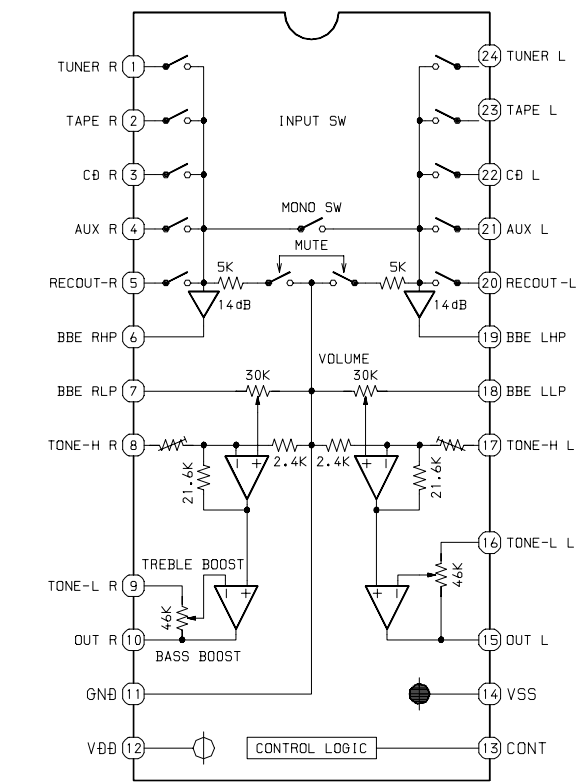
SCHEMATIC DIAGRAM - 4 (PT)



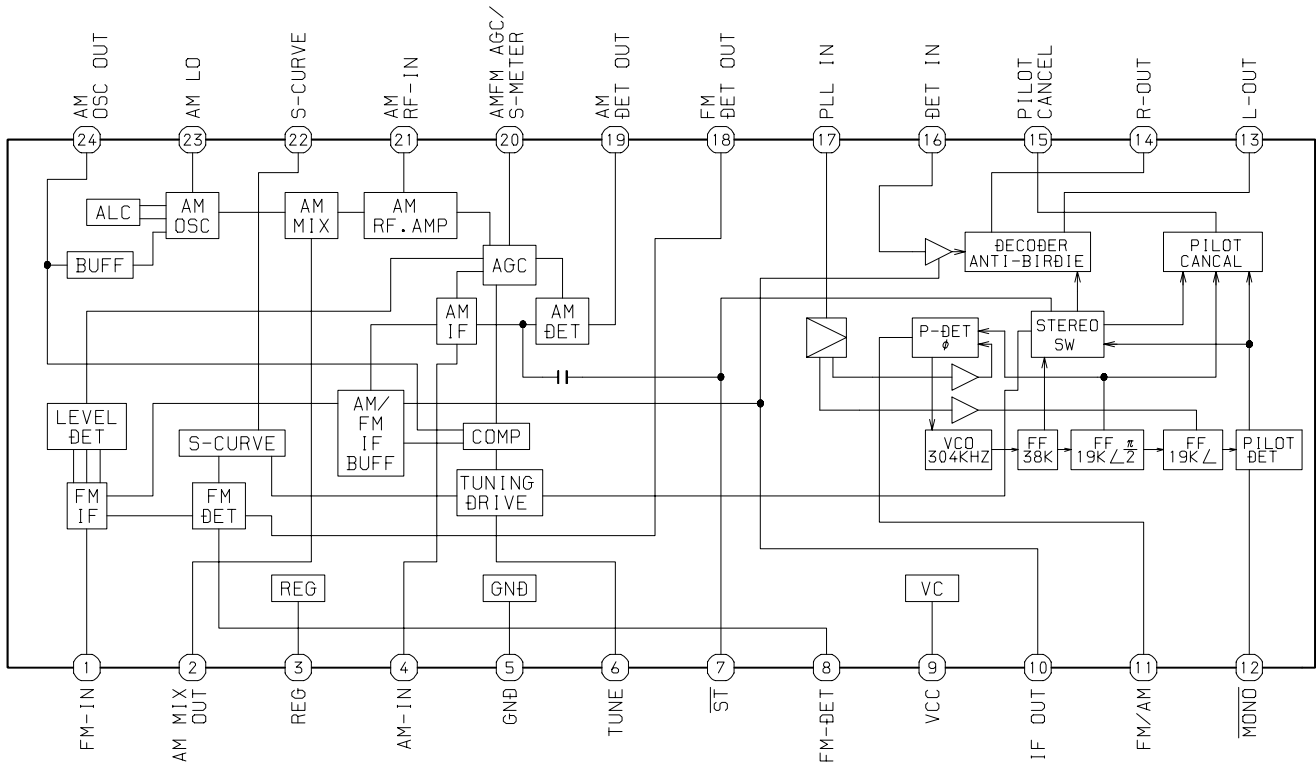
WIRING - 5 (DECK)



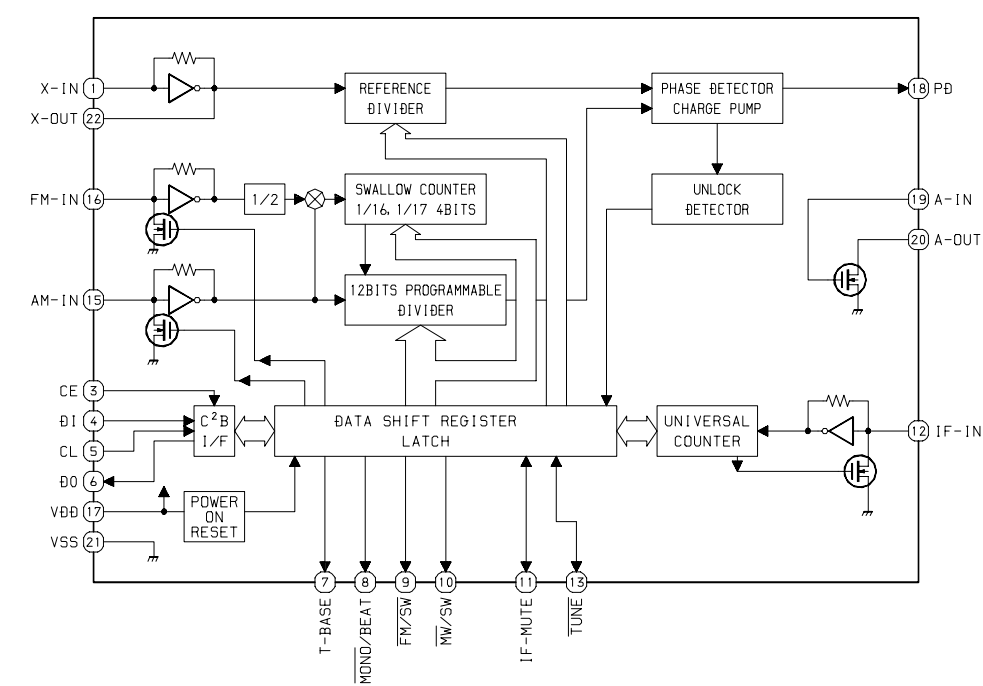
IC BLOCK DIAGRAM
IC,M62495AFP



IC,LA1843



IC,LC72131D



IC DESCRIPTION

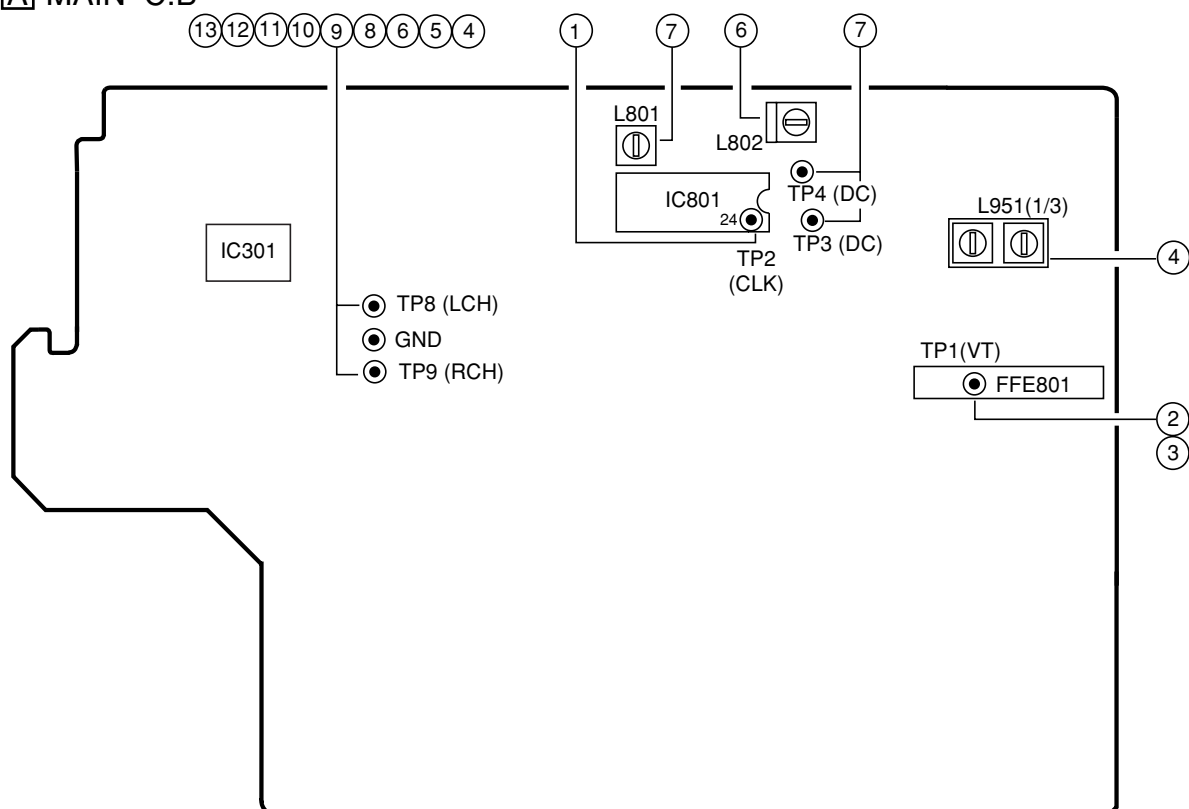
IC, M38B57MCH-E236FP

Pin No.	Pin Name	I/O	Description
1	I-SIG	I	RDS signal level A/D input. (Not used)
2	I-HOLD	I	Hold voltage level A/D input.
3	I-SW-(CD)	I	CD mecha SW A/D input.
4	I-DISH	I	CD turn-table position check A/D input.
5	I-KEY2	I	KEY2 A/D input.
6	I-KEY1	I	KEY1 A/D input.
7	I-RDS-DATA/ O-DSP-DATA	I/O	RDS data input / DSP IC data (V-CD) output. (Not used)
8	O-MOTOR	O	Deck motor supply ON/OFF output.
9	I-RMC	I	System remote control signal input. ("L"=ACTIVE)
10	RESET	I	System reset input. ("L"=RESET)
11	I-STEREO	I	Tuner stereo input. ("L"=STEREO)
12	O-DSC/O-PLL DATA	O	Function IC control & PLL data output.
13	VSS	-	GND.
14,15	XIN, XOUT	I/O	4.19MHz system CLK input / output.
16	VCC	-	Power supply input.
17	O-PB1	O	Deck 1/2 switch output. ("L"=PLAYBACK DECK 1)
18	O-STBY	O	Standby LED ON/OFF output. ("L"=ON)
19	O-RMT	O	REC mute output. ("H"=MUTE)
20	O-BIAS	O	Record bias ON/OFF output. ("L"=ON)
21	O-TU-ON	O	Tuner supply ON/OFF output. ("H"=ON)
22	O-CD-ON	O	CD supply ON/OFF output. ("H"= ON)
23	O-C.SHIFT	O	MICON clock shift output. ("L"=SHIFT)
24	O-CLK	O	PLL IC CLK output.
25	I-TM-BASE	I	8 Hz time base input.
26	O-CD-CLOSE	O	CD door close output.
27	O-CD-OPEN	O	CD door open output.
28	VEE	-	Power supply input for FL display.
29	O-STB(DSP)	O	DSP IC strobe output. (Not used)
30	O-KSCAN	O	Initial key scan output.
31	O-PLL-CE	O	CD PLL IC chip enable output.
32	O-CD-LED	O	CD flash window LED output.
33~42	G10~G1	O	FL grid output (G10~G1).
43	P22	O	FL segment output (P22). (Not used)
44~58	P21~P7	O	FL segment output (P21~P7).
59	PHONO/P6	I/O	PHONO diode input (Not used)/ FL segment output (P6).
60	DEMO/P5	I/O	CASINO DEMO diode input / FL segment output (P5).
61	NON-ECO/P4	I/O	ECO OFF diode input / FL segment output (P4).
62	I-TU3/P3	I/O	TU 3 diode input (Not used) / FL segment output (P3).
63	I-TU2/P2	I/O	TU 2 diode input (Not used) / FL segment output (P2).
64	I-TU1/P1	I/O	TU 1 diode input (Not used) / FL segment output (P1).

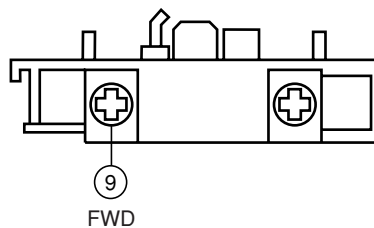
Pin No.	Pin Name	I/O	Description
65	O-DISH-R	O	CD turn-table reverse turn output.
66	O-DISH-F	O	CD turn-table forward turn output.
67	I-SUBQ	I	Sub code-Q data input.
68	O-CD-CE	O	CD DSP chip enable output.
69	I-WRQ	I	CD WRQ input.
70	O-CLK (CD)	O	CD control clock output .
71	O-DATA (CD)	O	CD control data output.
72	I-TUNE/IFC	I	Tuner SD input / IF count input.
73	AVSS	-	GND.
74	VREF	-	Reference voltage.
75	I-DRF	I	CD DRF input.
76	I-RDS-CLK	I	RDS clock input. (Not used)
77	I-LEVEL	I	Connected to GND through a resistor.
78	O-POWER	O	SYSTEM Power ON/OFF output. ("H"=ON)
79	I-RE-VOL	I	Rotary encoder A/D input.
80	I-TP-SW	I	Deck mecha SW A/D input.

ADJUSTMENT <TUNER / DECK>

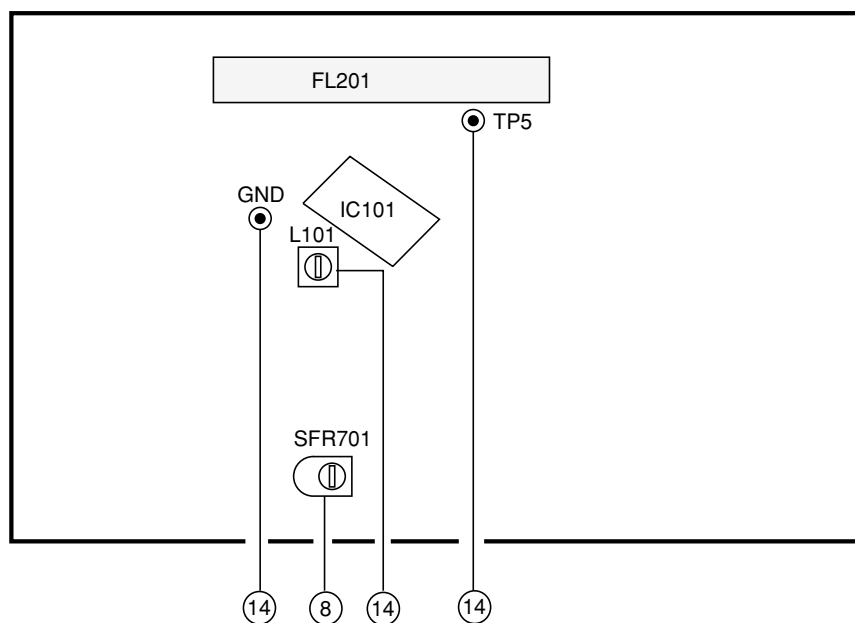
A MAIN C.B



DECK-1 R/P/E, DECK-2 P HEAD



B FRONT C.B



< TUNER SECTION >

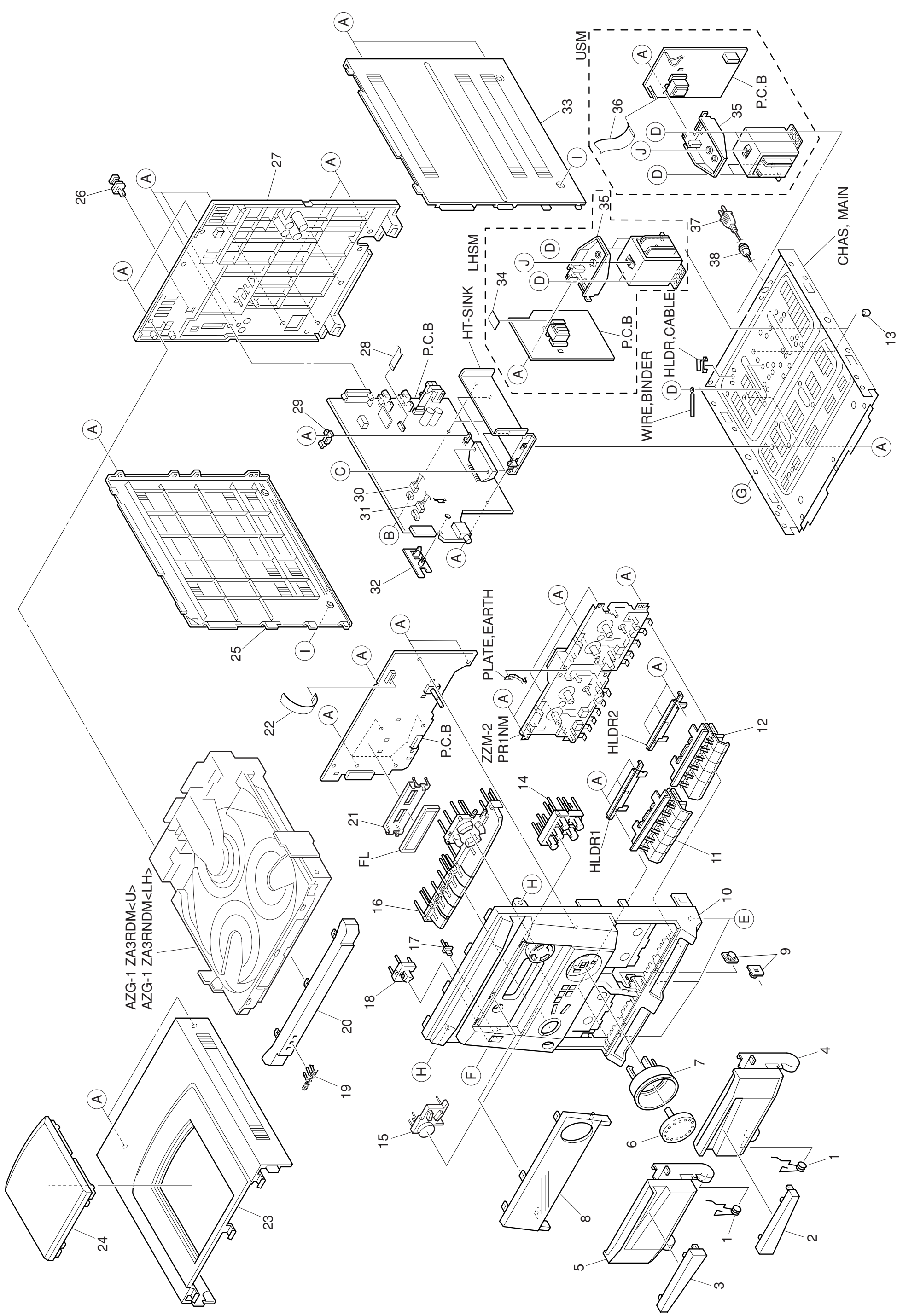
1. Clock frequency Check
Settings : • Test point : TP2(CLK)
Method : Set to AM 1710kHz and check that the test point is 2160kHz \pm 45Hz.
2. AM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to AM 1710kHz, 530kHz and check that the test point is less than 8.5V (1710kHz) and more than 0.6V (530kHz).
3. FM VT Check
Settings : • Test point : TP1 (VT)
Method : Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).
4. AM Tracking Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L951(1/3) 1000kHz
Method : Set to AM 1000kHz and adjust L951 to MAX.
5. FM Tracking Check
Settings : • Test point : TP8(Lch), TP9(Rch)
Method : Set to FM 98.0MHz and check that the test point is less than 9dB μ V.
6. AM IF Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L802 450kHz
7. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3, TP4 (DC Balance)
• Adjustment location : L801
• Input level : 60dB μ V
Method : Set to FM 98.0MHz and adjust minimum distortion by L801 and check that the voltage between TP3 and TP4 becomes 0 V \pm 300 mV.

< DECK SECTION >

8. Tape Speed Adjustment (DECK 1)
Settings : • Test tape : TTA-100
• Test point : TP8(Lch), TP9(Rch)
• Adjustment location : SFR701
Method : Play back the test tape and adjust SFR701 so that the frequency counter reads 3000Hz \pm 5Hz.
9. Head Azimuth Adjustment (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8(Lch), TP9(Rch)
• Adjustment location : Head azimuth adjustment screw
Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on REV PLAY mode.
10. PB Frequency Response Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8(Lch), TP9(Rch)
Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 4dB.
11. PB Sensitivity Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-200
• Test point : TP8(Lch), TP9(Rch)
Method : Play back the test tape and check that the output level of the test point is 110mV \pm 3.5dB.
12. REC/PB Frequency Response Check (DECK 1)
Settings : • Test tape : TTA-602
• Test point : TP8(Lch), TP9(Rch)
• Input signal : 1kHz / 8kHz (LINE IN)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the test points becomes -20VU. Record and play back the 1kHz and 8kHz signals and check that the output of the 8kHz signals is 0dB \pm 5dB with respect to that of the 1kHz signal.
13. REC/PB Sensitivity Check (DECK 1)
Settings : • Test tape : TTA-602
• Test point : TP8(Lch), TP9(Rch)
• Input signal : 1kHz (LINE IN)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 0VU. Record and play back the 1kHz signals and check that the output is -2dB \pm 3.5dB.

< FRONT SECTION >

14. u-CON OSC Adjustment
Settings : • Test point : TP5(K-SCAN)
• Adjustment location : L101
Method : Insert AC plug while pressing of TUNER / BAND function key and POWER key. Adjust L101 so that the frequency across the test point is 58.350Hz \pm 0.02Hz.

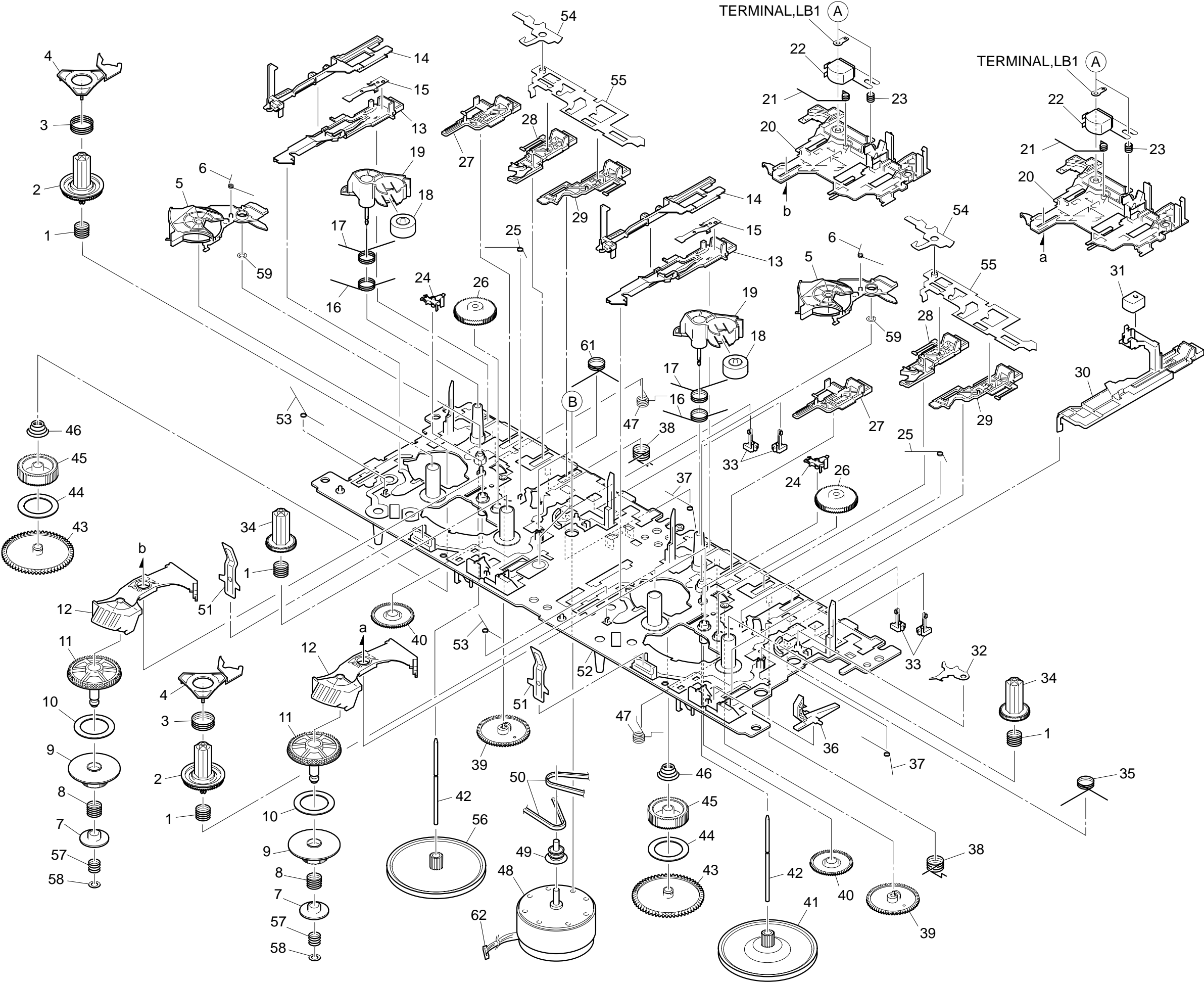


MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-NF7-218-010		SPR-T, CASS	28	88-906-251-110		FF-CABLE, 6P 1.25
2	8A-NFZ-007-010		WINDOW, CASS 2	29	8A-NF8-205-010		HLDR, IC
3	8A-NFZ-006-010		WINDOW, CASS 1	30	8A-NFA-633-010		CONN ASSY, 3P (PH)
4	8A-NFZ-004-010		BOX, CASS 2	31	8A-NFA-634-010		CONN ASSY, 8P RPB
5	8A-NFZ-003-010		BOX, CASS 1	32	8A-NFA-214-010		HLDR, PWB M ANFA
6	8A-NFZ-011-010		KNOB, RTRY VOL	33	8A-NFA-065-010		PANEL, RIGHT V-2<LH>
7	8A-NFZ-012-010		RING, VOL	33	8A-NFA-067-010		PANEL, RIGHT V-2 PL<U>
8	8A-NFZ-051-010		WINDOW, DISP H<LH>	34	8A-NFA-212-010		PLATE, PL LH<LH>
8	8A-NFZ-005-010		WINDOW, DISP U<U>	35	8A-NF9-211-010		HLDR, PWB PT HI
9	86-NFZ-231-010		DMPR, 70	36	8A-NF9-609-010		F-CABLE, 9P 2.5 480MM<U>
10	8A-NFZ-001-010		CABI, FR U	△ 37	87-A80-092-010		AC CORD ASSY, E BLK SUN FAI<LH>
11	8A-NFZ-016-010		KEY, CASS 1	△ 37	87-A80-110-010		AC CORD ASSY, U SPT-2W<U>
12	8A-NFZ-017-010		KEY, CASS 2P	38	87-085-185-010		BUSHING, AC CORD (E)<LH>
13	8Z-NB8-240-010		COVER, PL	38	87-A91-422-010		BUSHING, AC CORD (U)<U>
14	8A-NFZ-010-010		KEY, OPE	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
15	8A-NFZ-013-010		KEY, CD	B	87-NF4-224-010		S-SCREW, IT3B+3-8 CU
16	8A-NFZ-009-010		KEY, FUN	C	87-067-581-010		TAPPING SCREW, BVT2+3-15
17	8A-NFA-018-010		REFLECTOR, ECO	D	87-078-191-010		S-SCREW, IT+4-10
18	8A-NFZ-008-010		KEY, POWER	E	87-067-688-010		BVTT+3-6
19	87-CE3-023-010		BADGE, AIWA 30N SILV	F	87-723-096-410		QT2+3-10W/O SLOT BL
20	8A-NFZ-002-010		PANEL, TRAY H	G	87-721-096-410		QT2+3-10 GLD
21	8A-NFA-208-010		GUIDE, FL 100-25 ANFA	H	87-721-097-410		QT2+3-12 GLD
22	88-913-221-110		FF-CABLE, 13P 1.25 220MM	I	87-067-641-010		UTT2+3-8 (W/O SLOT) BL
23	8A-NFA-062-010		PANEL, TOP V-2<LH>	J	87-067-579-010		TAPPING SCREW, BVT2+3-8
23	8A-NFA-061-010		PANEL, TOP V-2 R<U>				
24	8A-NFZ-015-010		WINDOW, TOP BL<U>				
25	8A-NFA-063-010		PANEL, LEFT V-2				
26	84-ZG1-245-210		CAP, OPTICAL				
27	8A-NFZ-023-010		CABI, REAR LHSM<LH>				
27	8A-NFZ-021-010		CABI, REAR USM<U>				

COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange		



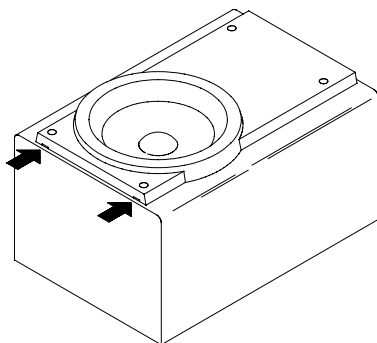
TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM1-254-210		SPR-C, REEL R	36	8Z-ZM1-220-110		LEVER, REC SENSOR
2	8Z-ZM1-225-110		GEAR, REEL R	37	8Z-ZM1-249-010		SPR-T, FR
3	8Z-ZM1-253-110		SPR-C, AUTO SENSOR	38	8Z-ZM1-242-110		SPR-T, FF/REW
4	8Z-ZM1-217-110		LEVER, AUTO SENSOR	39	8Z-ZM1-229-010		GEAR, CAM
5	8Z-ZM1-212-110		LEVER, T-UP	40	8Z-ZM1-232-010		GEAR, IDL FF/REW
6	8Z-ZM1-245-010		SPR-T, AUTO	41	8Z-ZM1-234-010		FLY-WHL, ZZM-1
7	8Z-ZM1-236-010		CLR, SLIP FF/REW	42	8Z-ZM1-267-010		SHAFT, CAPSTAN 2
8	8Z-ZM1-252-010		SPR-C, FF/REW	43	8Z-ZM1-228-010		GEAR, SLIP T-UP B
9	8Z-ZM1-230-010		GEAR, SLIP FF/REW A	44	8Z-ZM1-265-010		FELT, T-UP
10	8Z-ZM1-269-010		FELT, FF/REW 2	45	8Z-ZM1-227-010		GEAR, SLIP T-UP A
11	8Z-ZM1-238-110		GEAR, SLIP FF/REW B 2	46	8Z-ZM1-251-110		SPR-C, T-UP SLIP
12	8Z-ZM1-237-010		LEVER, FF/REW 2	47	8Z-ZM1-243-210		SPR-T, STOP/PAUSE
13	8Z-ZM1-209-210		LEVER, PAUSE	48	87-A91-532-010		MOT, MS15U2LW1A
14	8Z-ZM1-218-110		LEVER, E-LOCK H	49	8Z-ZM1-235-010		PULLEY, MOT
15	8Z-ZM1-256-010		SPR-P, PAUSE	50	8Z-ZM2-216-010		BELT, MAIN M
16	8Z-ZM1-244-010		SPR-T, T-UP	51	8Z-ZM1-260-010		SPR-P, CASSETTE
17	8Z-ZM1-247-210		SPR-T, PINCH	52	8Z-ZM2-201-010		CHAS ASSY, ZZM-2
18	8Z-ZM1-261-110		ROLLER ASSY, PINCH	53	8Z-ZM1-255-110		SPR-T, E-LOCK
19	8Z-ZM1-221-010		LEVER, PINCH	54	8Z-ZM2-219-010		LEVER, E-OPEN ZZM-2
20	8Z-ZM1-205-210		LEVER, PLAY	55	8Z-ZM1-214-110		LEVER, LOCK
21	8Z-ZM1-248-110		SPR-T, BRG	56	8Z-ZM2-211-010		FLY-WHL, ZZM-2
22	87-A90-403-110		HEAD, RPH MS15R	57	8Z-ZM1-257-110		SPR-C, F/R
23	84-ZM2-227-310		SPR-C, AZIMUTH	58	8Z-ZM1-275-010		W-L, 1.47-4-0.25
24	8Z-ZM1-216-010		LEVER, AUTO	59	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT
25	8Z-ZM1-246-010		SPR-T, AUTO 2	60	87-A91-494-010		SW, LEAF MSW17820
26	8Z-ZM2-214-010		GEAR, IDL REW ZZM-2	61	8Z-ZM1-241-010		SPR-T, PLAY
27	8Z-ZM2-212-010		LEVER, STOP ZZM-2	62	8Z-ZM2-601-010		CONN ASSY, 9P ZZM-2
28	8Z-ZM1-207-010		LEVER, FF	A	84-ZM2-242-010		S-SCREW, AZ1-2-6.4
29	8Z-ZM1-206-010		LEVER, REW	B	8Z-ZM2-220-110		V+2.6 ZZM-2
30	8Z-ZM1-210-010		LEVER, REC				
31	87-A90-404-010		HEAD, EH LE15B				
32	8Z-ZM2-218-010		LEVER, REC LOCK ZZM-2				
33	87-A91-492-010		SW, LEAF MSW18560				
34	8Z-ZM1-226-010		GEAR, REEL L				
35	8Z-ZM1-241-010		SPR-T, PLAY				

SPEAKER DISASSEMBLY INSTRUCTIONS

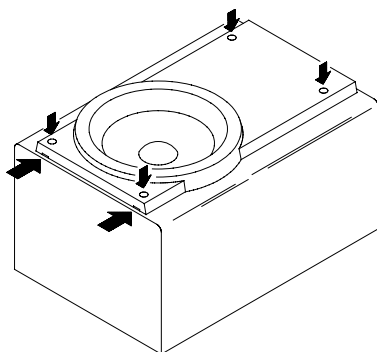
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



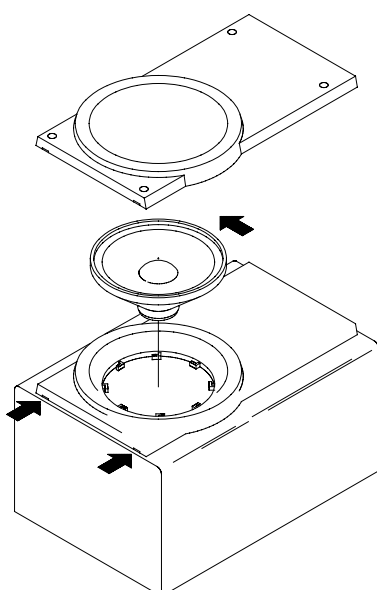
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

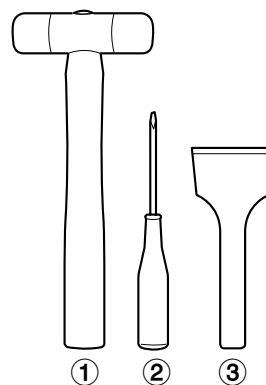


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

- ① Plastic head hammer
- ② (⊖) flat head screwdriver
- ③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

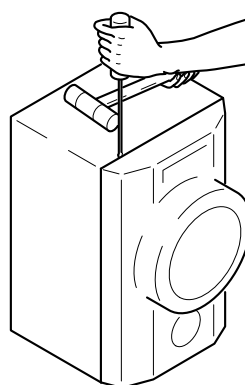


Fig-1

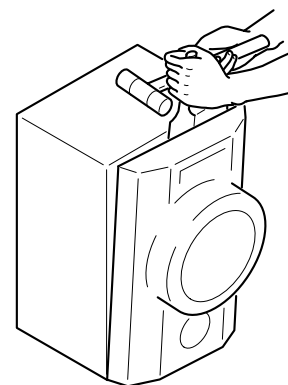


Fig-2

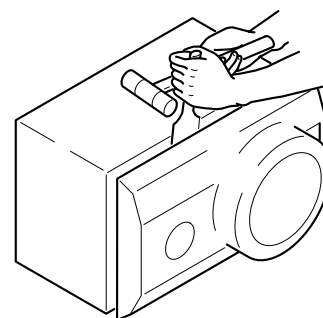


Fig-3


How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST (SX-NBL17YLSC9 / SX-NAJ17YUSL)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NSB-001-010		PANEL, FR
2	8A-NSB-003-010		GRILLE, FRAME ASSY
3	8Z-NSL-603-010		SPKR, W 120<YUSL>
3	8A-NSL-602-010		SPKR, 120<YLSC9>
4	87-NS7-611-010		CORD, SPKR

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NFZ-902-010		IB, LH (ESP) M -BL14<LH>
1	8A-NFZ-903-010		IB, U (ESF) M -AJ17<U>
2	8Z-NF9-701-210		RC UNIT, ZAS02
3	87-043-115-010		ANT, FEEDER FM
4	87-006-225-010		AM LOOP ANT NC2
 5	87-A91-017-010		PLUG, CONVERSION JT-0476<LH>

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111